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Earth Science
Standard
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Rainforests and Deserts: Distribution, Uses, and Human Influences

California Education and the Environment Initiative

Approved by the California State Board of Education, 2010

The Education and the Environment Curriculum is a cooperative endeavor of the following entities:

California Environmental Protection Agency
California Natural Resources Agency
Office of the Secretary of Education
California State Board of Education
California Department of Education
California Integrated Waste Management Board

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Key Partners:

Special thanks to **Heal the Bay**, sponsor of the EEI law, for their partnership and participation in reviewing portions of the EEI curriculum.

Valuable assistance with maps, photos, videos and design was provided by the **National Geographic Society** under a contract with the State of California.

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VA #1 Joshua Tree National Park



This photograph shows the landscape of Joshua Tree National Park. The Joshua tree (*Yucca brevifolia*) is the largest and most common plant in the park.

VA #2 Barstow-Vegas Wagon Trail



VA #3 Life in the Amazon Rainforest



VA #4 Life in the Mojave Desert

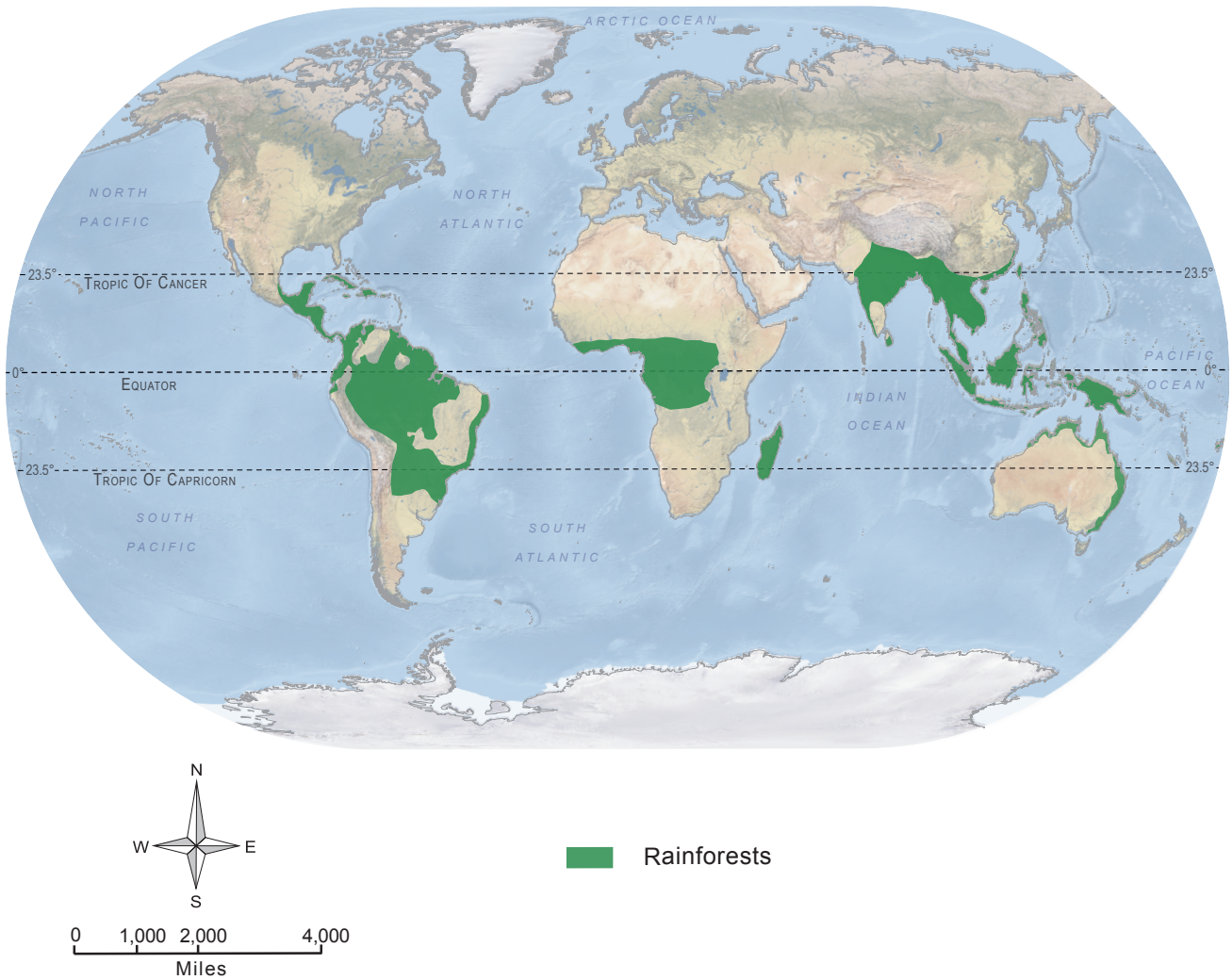


VA #5 Latitude**Latitude**

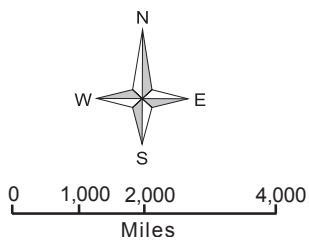
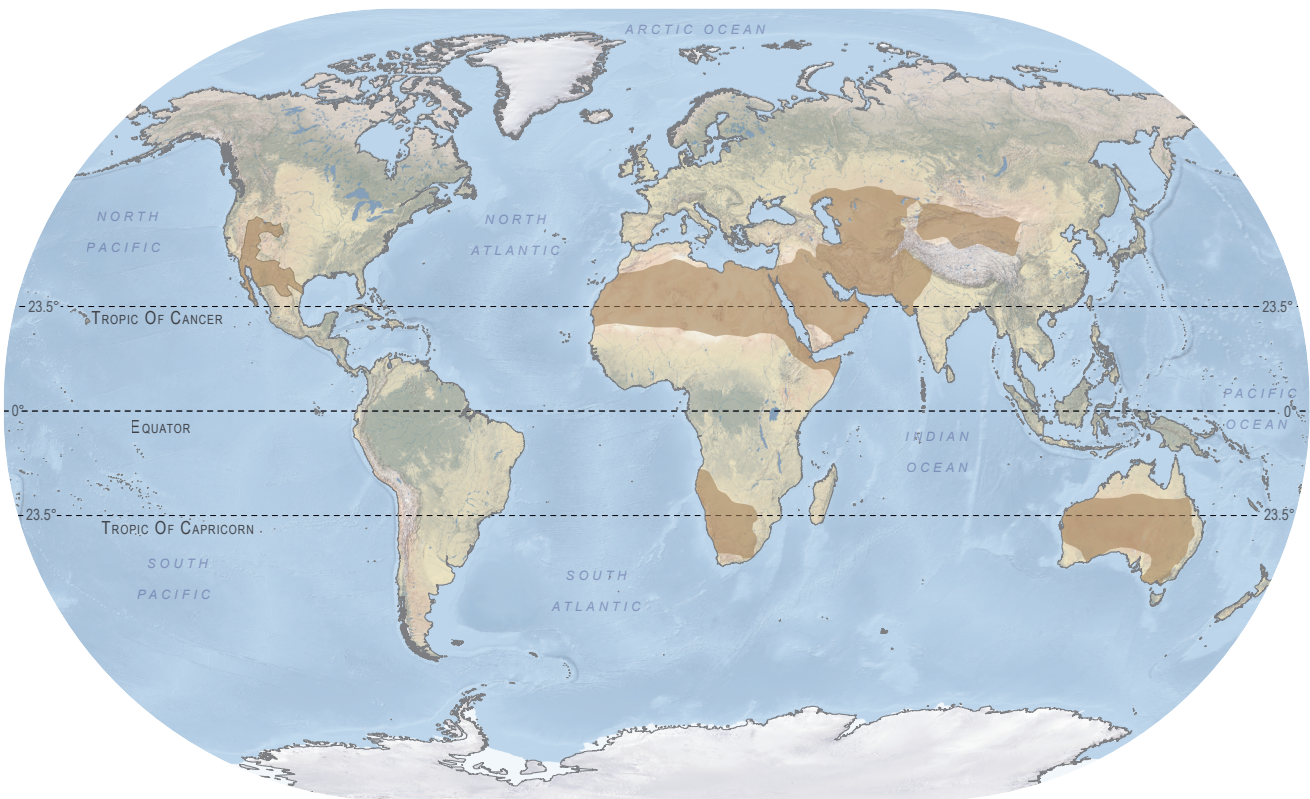
VA #6 Global Convection Currents



VA #7 Global Distribution of Rainforests



VA #8 Global Distribution of Deserts



Deserts

VA #9 Rainforest Uses

Ecosystems Goods (5 points)

Trees

Flowers

Soil

Water

Oxygen

Ecosystems Services (5 points)

Oxygen production

Carbon sequestration (long-term storage of carbon in forests, soil, and oceans)

Erosion control

Nutrient cycling

Regulation of water cycle

Human Uses (5 points)

Timber for construction

Agricultural crop seed sources

Pharmaceutical/medicinal discovery sources

Foodstuffs, including spices, nuts, and berries

Roots of plants keep soil in place and prevent erosion

VA #10 Solar and Wind Power from the Desert



VA #11 Desert Uses

Ecosystems Goods (5 points)

Land

Plants

Animals

Petroleum—crude oil

Minerals, precious metals, and gemstones

Ecosystems Services (5 points)

Atmospheric services (for example heat, wind)

Water supply/storage

Potential for solar and wind power

Erosion control

Pollination by insects

Human Uses (5 points)

Solar and wind energy

Recreation

Food production

Land for farming

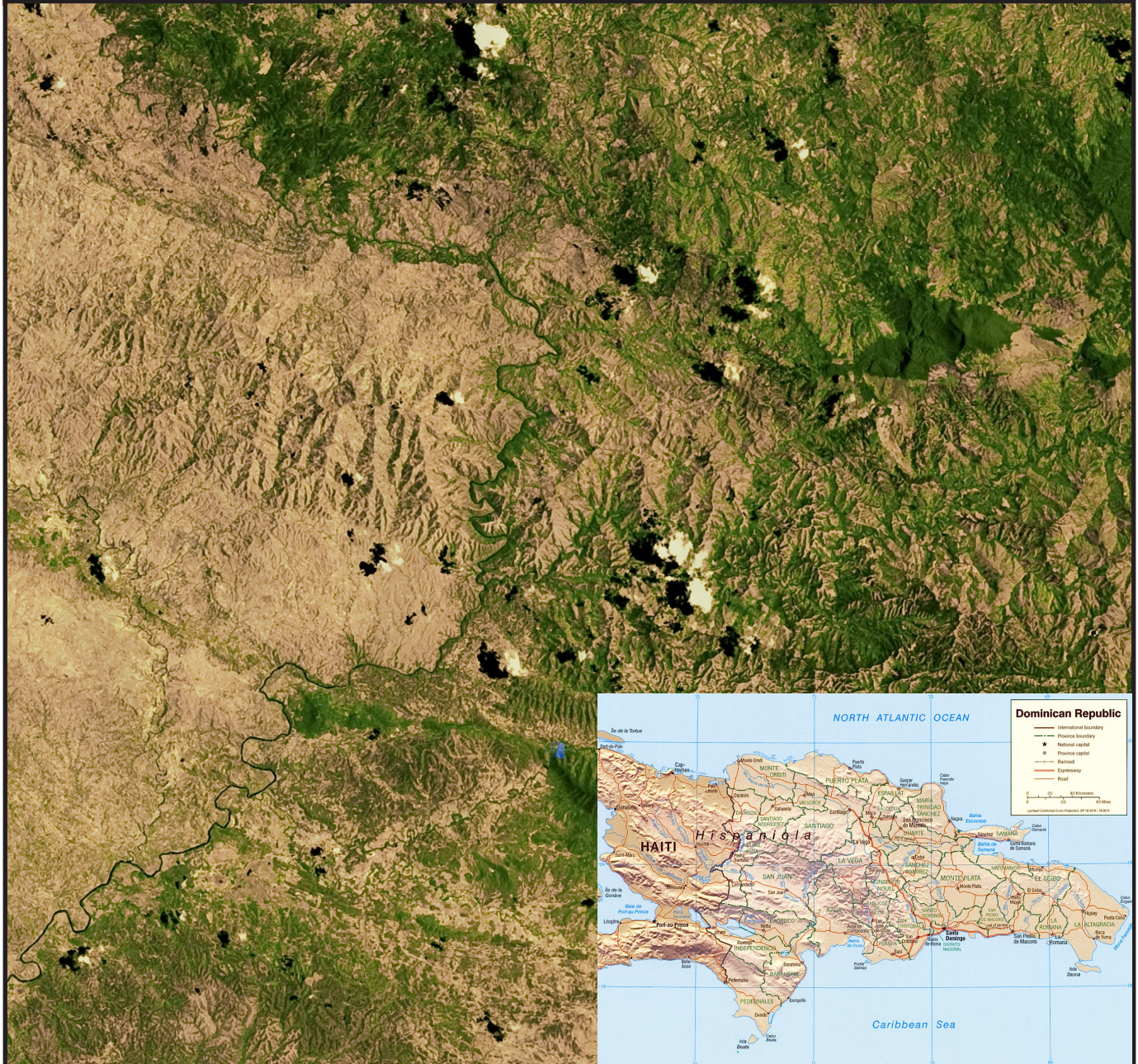
Habitat for plants and animals

Land for development and housing

VA #12 Human Activities in Rainforests



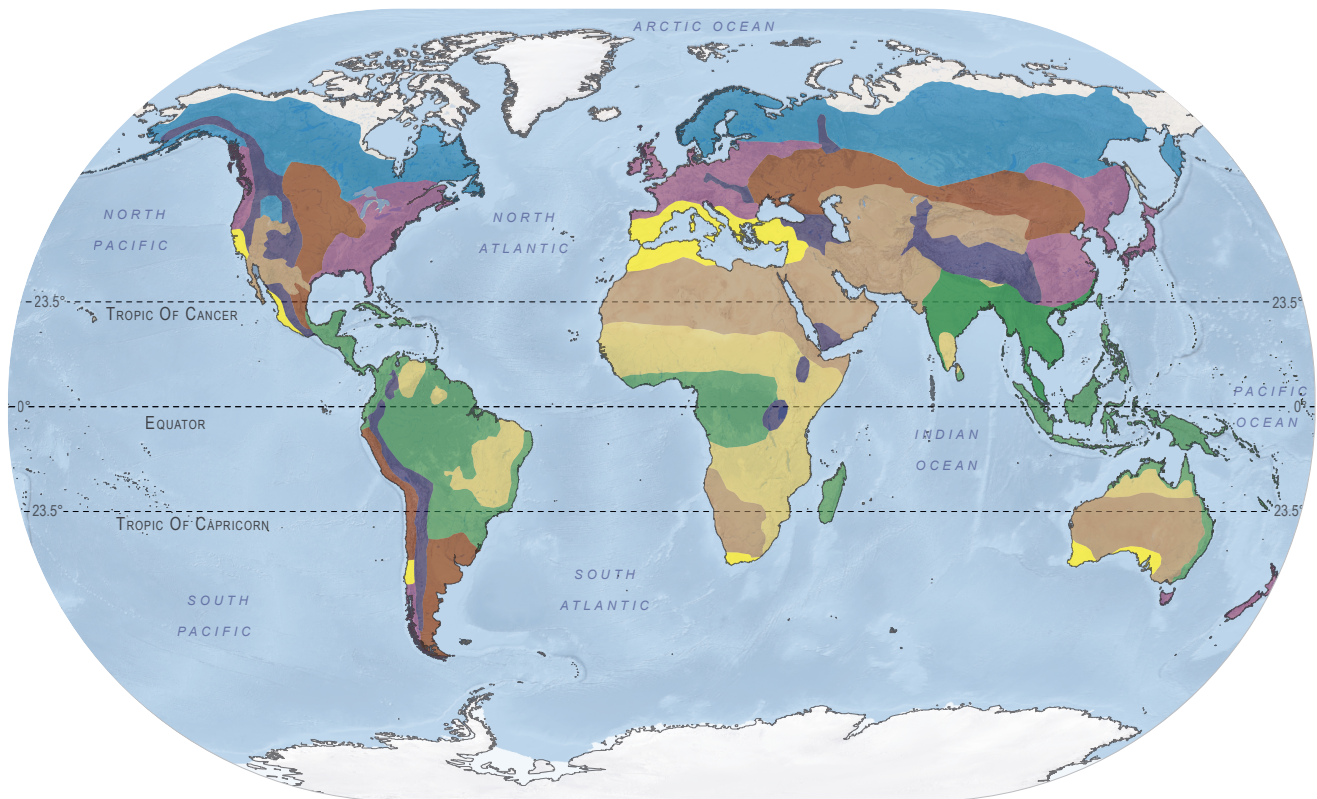
VA #13 Border Between Haiti and Dominican Republic



VA #14 Human Activities in Deserts



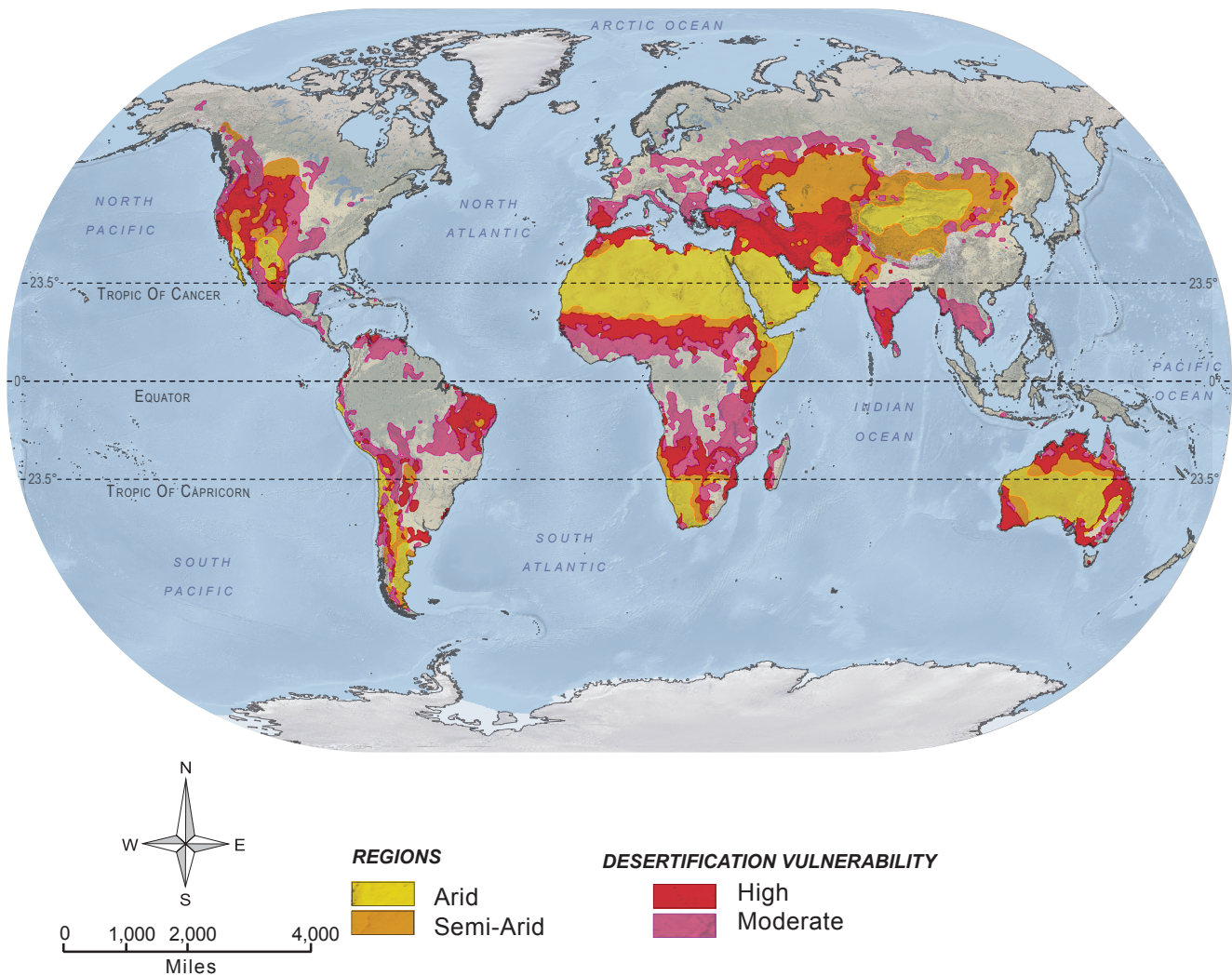
VA #15 World Biomes



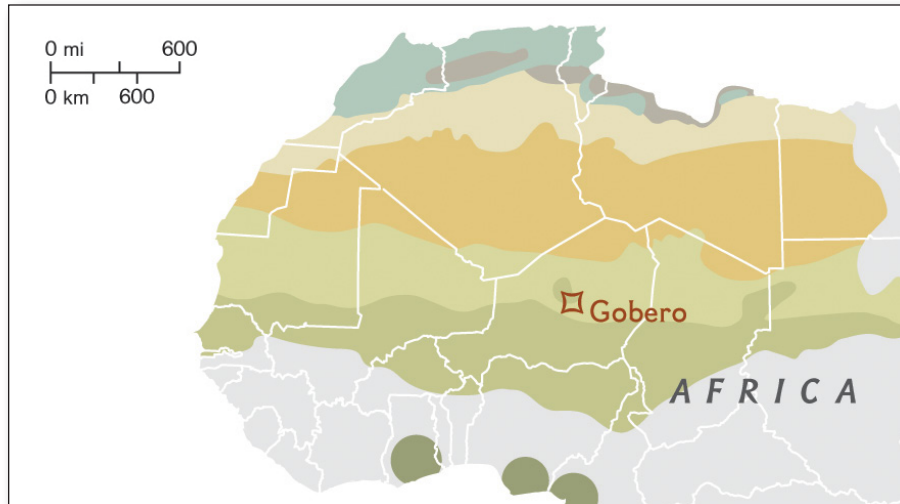
VA #16 Ecosystem Recovery



VA #17 Global Desertification Vulnerability Map



VA #18 Changing Boundaries of the Sahara Desert

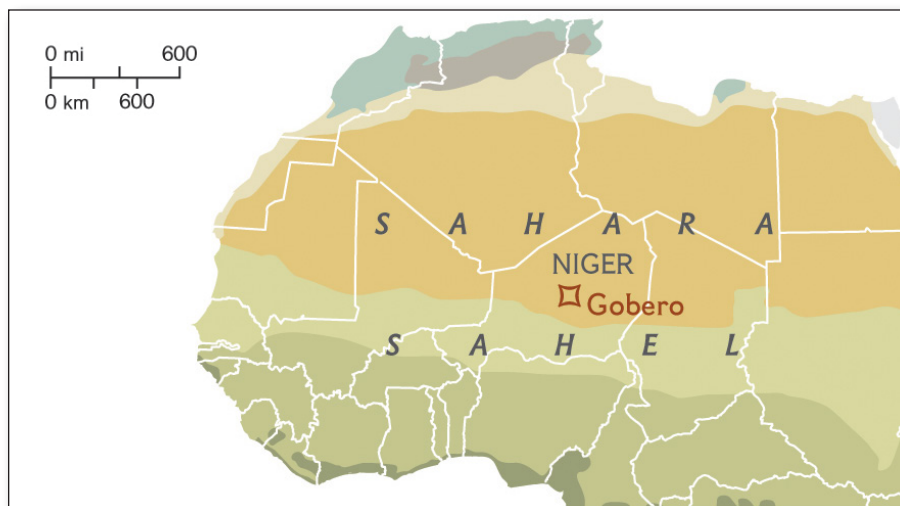


Vegetation

- Forest
- Steppe
- Semidesert
- Desert
- Savanna
- Savanna and forest
- Rain forest
- No data

Sahara 8,000 Years Ago

Gobera – Ancient Burial Site



Sahara Today

Gobera – Ancient Burial Site

VA #19 Artifacts of the Kiffian Culture



fishhook tool



spear tip

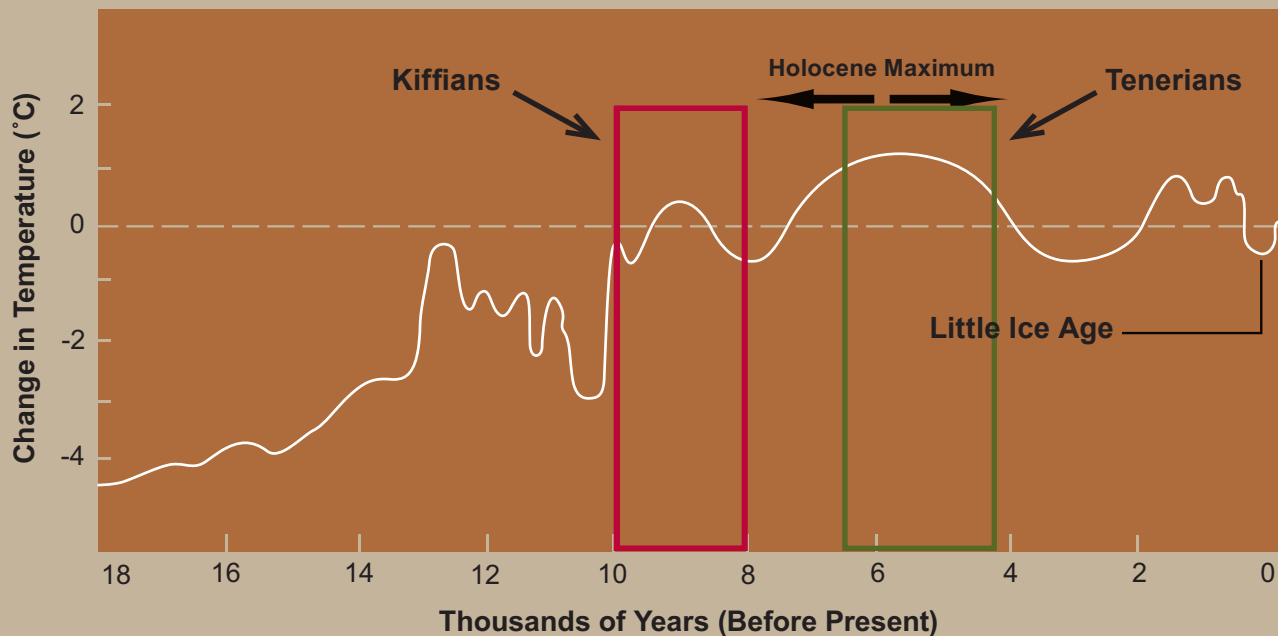


harpoon



harpoon

VA #20 Global Temperature Change



Kiffian Culture lived in Green Sahara



Tenerian Culture lived in Green Sahara

VA #21 Artifacts of the Tenerian Culture



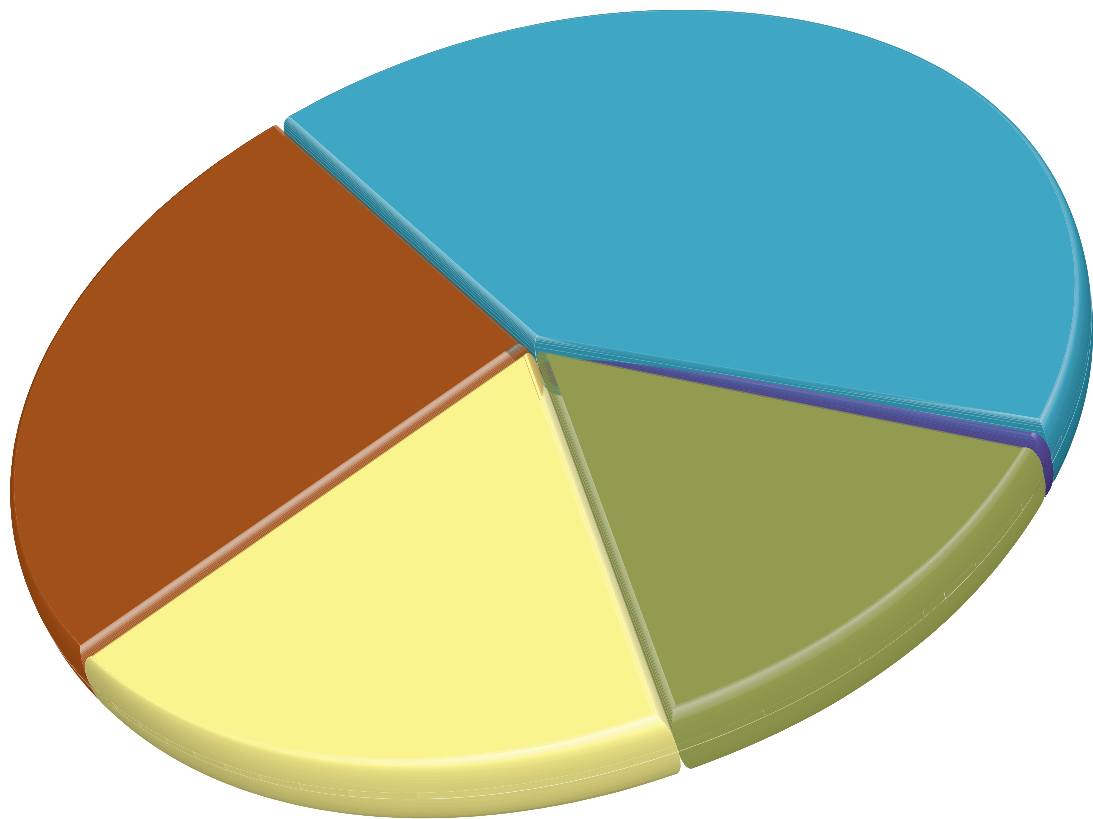
arrowhead

tool from
antelope knuckles

arrowhead

VA #22 Mojave Desert Ecosystem



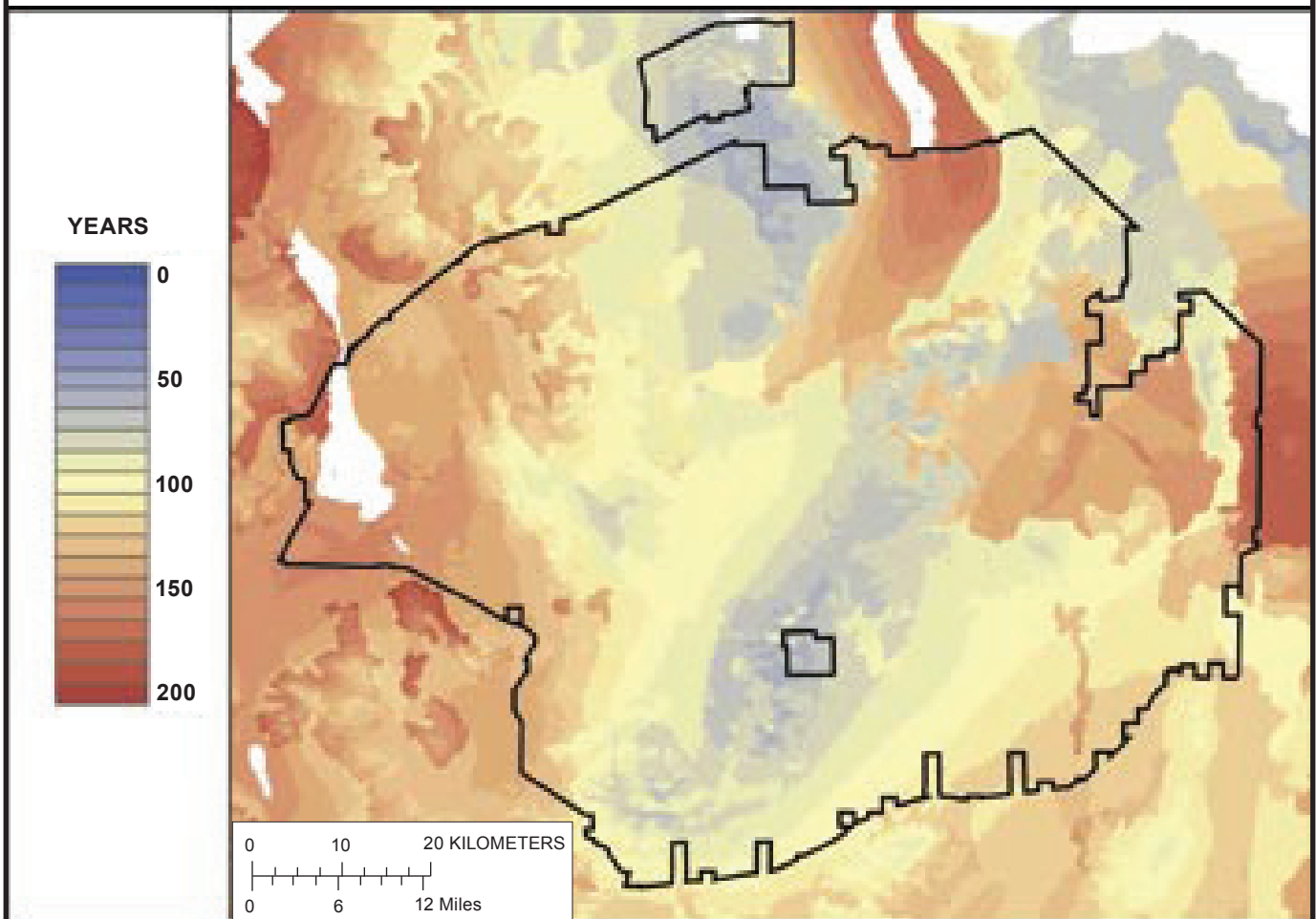
VA #23 Who Manages California's Mojave Desert Lands?

- Bureau of Land Management
- National Park Service
- Private Landowners/Municipalities
- Department of Defense
- State Parks/Fish and Game

VA # 24 Desert Crusts



VA #25 Spatial Map for Soil Compaction Recovery



Geospatial map of the USGS Recoverability and Vulnerability of Desert Ecosystems (RVDE) study site in the Mojave Desert shows the time necessary to recover from soil compaction.

Source: Used with permission of the U.S. Geological Survey.



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